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(19) **United States**(12) **Patent Application Publication** (10) Pub. No.: **US 2002/0142748 A1**
Earls (43) Pub. Date: **Oct. 3, 2002**(54) **CONVERSION SPUR AVOIDANCE IN A
MULTI-CONVERSION RADIO FREQUENCY
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Beaverton, OR 97077 (US)**(21) Appl. No.: **09/825,308**(22) Filed: **Apr. 2, 2001****Publication Classification**(51) Int. Cl.⁷ **H04B 1/26**(52) U.S. Cl. **455/323; 455/314; 455/296**(57) **ABSTRACT**

A method of avoiding conversion spurs in a multi-conversion radio frequency receiver having a first local oscillator, an intermediate frequency filter and a second local oscillator in series generates, based on a center frequency for the intermediate frequency filter, a table of problem frequencies of the first local oscillator relative to a frequency of the second local oscillator which produce harmonic mixing products within the bandwidth of the intermediate frequency filter versus corresponding frequency offsets for the second local oscillator which retune the frequency of the second local oscillator so the harmonic mixing products are moved outside the bandwidth of the intermediate frequency filter. In operation when in analyzing an input radio frequency signal the frequency of the first local oscillator equals one of the problem frequencies in the table, the frequency of the second local oscillator is retuned by the corresponding frequency offset from the table, thus moving the harmonic mixing products of the two local oscillators outside the bandwidth of the intermediate frequency filter so they don't affect the analysis of the input radio frequency signal.

